

IFWP

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/584,990

DATE: 07/10/2006

TIME: 10:42:40

Input Set : F:\SU0401_sequences.txt
Output Set: N:\CRF4\07102006\J584990.raw

3 <110> APPLICANT: SUNTORY LIMITED 5 <120> TITLE OF INVENTION: NOVEL SEROTYPE STREPTOCOCCUS MUTANS AND UTILIZATION OF THE SAME 7 <130> FILE REFERENCE: SU0401 C--> 9 <140> CURRENT APPLICATION NUMBER: US/10/584,990 C--> 10 <141> CURRENT FILING DATE: 2006-06-29 12 <150> PRIOR APPLICATION NUMBER: US 60/533,076 13 <151> PRIOR FILING DATE: 2003-12-30 15 <150> PRIOR APPLICATION NUMBER: JP 2004-106825 16 <151> PRIOR FILING DATE: 2004-03-31 18 <160> NUMBER OF SEQ ID NOS: 10 20 <170> SOFTWARE: PatentIn Ver. 2.1 22 <210> SEQ ID NO: 1 23 <211> LENGTH: 1752 24 <212> TYPE: DNA 25 <213> ORGANISM: Streptococcus mutans 27 <400> SEQUENCE: 1 28 atgaaaagac tacttttgta tgtgcatttt aataaatata atcgtgtgag ttctcatgtt 60 29 tactaccaac taacacaaat gcgcccctta ttttcaagag tagttttcat cacaaatagt 120 30 cacctatctc aggagaacca agataagctg cgcagtcaaa agttgatgga tgattttcta 180 31 cagagggaaa atatcggttt tgattttgca gcttggcgtg atgggatgaa tcacattggt 240 32 tttgacaatc ttgattctta tgatattgtc actgttatga acgatacttg ctttggacct 300 33 ttgtgggatg ttaaggagca ttacctgtcc tatgaaaagc aggacgagat tgatttttgg 360 34 ggattgacta ataatcgtgc gactaagcag tttaaggaac atattcaaag ctactttatt 420 35 acctttaaaa aagctgttat tcaatcggag gcctttcata atttttggga gaacatccaa 480 36 aatcatgcag atattcaacg tgtcattgat gattacgaaa ctcaggtgac gacaacgctt 540 37 ttggatgctg gttttcaata tgatgtcgtt tttgatacga ccaaagaaga tgcttcgcgt 600 38 atgcttcatg cagacttctc ttactataat ccaacagcta ttttgaatca tagggtgccc 660 39 tttatcaagg ttaaagcgat tgacaataat caacatatta cgccctatct tttaaatgat 720 40 attcaaaaga attcgaccta tcctattgat ctaatcgttt cgcacatgtc agaaatcaat 780 41 tatcctgatt ttagttattt attgggtcac aaatatgtca agaaaaggga aagagttgat 840 42 ttaaagaatc aaaaagctgc ggttcatctc catgtgtttt atgtggattt gctggaagaa 900 43 tttttaacgg catttaaaca atttcatttt tcttatgatt tatttataac gacagatagt 960 44 gatgataaga aagctgaaat tgaagagatt ctatctgcaa acagtcaaga ggctcaggtt 1020 45 tttgtcacag gcaatattgg acgtgatgtt cttcctatgt taaaattaaa aaattatta 1080 46 tctacctatg attttgttgg tcattttcat accaaaaagt caaaggaggc tgatttttgg 1140 47 gctggccaat cttggcggga agaattaatt gacatgttgg ttaaaccagc agacaatatt 1200 48 ttagcgcaat tacagcaaaa ccccaaaatt ggtttggtga ttgctgatat gccaactttc 1260 49 tttcgctata ataaaattgt ggatgcttgg aatgaacatt tgattgcacc tgagatgaat 1320 50 acattatggc aaaagatggg catgaccaaa aagattgatt tcaatgcttt tcacactttt 1380 51 gtcatgagtt atggcacttt tgtttggttt aaatatgatg ccttaaaacc gctctttgat 1440 52 ttaaatctga cagatgatga tgtgcctgag gaacctttac cgcaaaattc tattttacat 1500

53 gctattgagc gtttgctgat ctacattgct tggaatgagc attacgattt tagaatttct 1560

54 aaaaatccag ttgatctgac gcctttcata gataataaat tattaaataa acgtggtaac 1620

t t

RAW SEQUENCE LISTING DATE: 07/10/2006
PATENT APPLICATION: US/10/584,990 TIME: 10:42:40

```
55 tcagcaccaa atacctttat tgattttaac catatgggag gaataaaagg agcttttaag 1680
56 tatatcttta ttggtccagc tagggctgtc aaatatatcc ttaaacgttc tctgcaaaaa 1740
                                                                     1752
57 ataaagtcat ga
60 <210> SEQ ID NO: 2
61 <211> LENGTH: 1752
62 <212> TYPE: DNA
63 <213> ORGANISM: Streptococcus mutans
65 <400> SEQUENCE: 2
66 atgaaaagac tacttttgta tgtgcatttt aataaatata atcgtgtgag ttctcatgtt 60
67 tactaccaac taacacaaat gcgcccctta ttttcaagag tagttttcat cacaaatagt 120
68 cacctatctc aggagaacca agataagctg cgcagtcaaa agttgatgga tgattttcta 180
69 cagagggaaa atatcggttt tgattttgca gcttggcgtg atgggatgaa tcacattggt 240
70 tttgacaatc ttgattctta tgatattgtc actgttatga acgatacttg ttttggacct 300
71 ttgtgggatg ttaaggagca ttacctgtcc tatgaaaagc aggacgagat tgatttttgg 360
72 ggattgacta ataatcgtgc gactaagcag tttaaggaac atattcaaag ctactttatt 420
73 acctttaaaa aagctgttat tcaatcggag gcctttcata atttttggga gaacatccaa 480
74 aatcatgcag atattcaacg tgtcattgat gattacgaaa ctcaggtgac gacaacgctt 540
75 ttggatgctg gttttcaata tgatgtcgtt tttgatacga ccaaagaaga tgcttcgcat 600
76 atgcttcatg ccgacttctc ttactataat ccaacagcta ttttgaatca tagggtgccc 660
77 tttatcaagg ttaaagcgat tgacaataat caacatatta cgccctatct tttaaatgat 720
78 attcaaaaga attcgaccta tcctattgat ttaatcgttt cgcacatgtc agaaatcaat 780
79 tatcctgatt ttagttattt attgggtcac aaatatgtca agaaaaggga aagagttgat 840
80 ttaaagaatc aaaaagctgc ggttcatctc catgtgtttt atgtggattt gctggaagaa 900
81 tttttaacgg catttaaaca atttcatttt tcttatgatt tatttataac gacagatagt 960
82 gatgataaga aagctgaaat tgaagagatt ctatctgcaa acagtcaaga ggctcaggtt 1020
83 tttgtcacag gcaatattgg acgtgatgtt cttcctatgt taaaattaaa aaattatta 1080
84 tctacctatg attttgttgg tcattttcat accaaaaagt caaaggaggc tgatttttgg 1140
85 gctggccaat cttggcggga agaattaatt gacatgttgg ttaaaccagc agacaatatt 1200
86 ttagcgcaat tacagcaaaa cccaaaaatt ggtttggtga ttgctgatat gccaactttc 1260
87 tttcgctata ataaaattgt ggatgcttgg aatgaacatt tgattgcacc tgagatgaat 1320
88 acattatggc aaaagatggg catgaccaaa aagattgatt tcaatgcttt tcacactttt 1380
89 gtcatgagtt atggcacttt tgtttggttt aaatatgatg ccttaaaacc gctctttgat 1440
90 ttaaatctga cagatgatga tgtgcctgag gaacctttac cgcaaaattc tattttacat 1500
91 gctattgagc gtttgctgat ctacattgct tggaatgagc attacgattt tagaatttct 1560
92 aaaaatccag ttgatctgac gcctttcata gataataaat tattaaataa acgtggtaac 1620
93 tcagcaccaa atacctttat tgattttaac catatgggag gaataaaagg agcttttaag 1680
94 tatatcttta ttggtccagc tagggctgtc aaatatatcc ttaaacgttc tctgcaaaaa 1740
95 ataaagtcat ga
                                                                     1752
98 <210> SEQ ID NO: 3
99 <211> LENGTH: 1752
100 <212> TYPE: DNA
101 <213> ORGANISM: Streptococcus mutans
103 <400> SEQUENCE: 3
104 atgaaaagac tacttttgta tgtgcatttt aataaatata atcgtgtgag ttctcatgtt 60
105 tactaccaac taacacaaat gcgcccctta ttttcaagag tagttttcat cacaaatagt 120
106 cacctatctc aggagaacca agataagctg cgcagtcaaa agttgatgga tgattttcta 180
107 cagagggaaa atatcggttt tgattttgca gcttggcgtg atgggatgaa tcacattggt 240
108 tttgacaatc ttgattctta tgatattgtc actgttatga acgatacttg ctttggacct 300
109 ttgtgggatg ttaaggagca ttacctgtcc tatgaaaagc aggacgagat tgatttttgg 360
```

RAW SEQUENCE LISTING DATE: 07/10/2006
PATENT APPLICATION: US/10/584,990 TIME: 10:42:40

```
110 ggattgacta ataatcgtgc gactaagcag tttaaggaac atattcaaag ctactttatt 420
111 acctttaaaa aagctgttat tcaatcggag gcctttcata atttttggga gaacatccaa 480
112 aatcatgcag atattcaacg tgtcattgat gattacgaaa ctcaggtgac gacaacgctt 540
113 ttggatgctg gttttcaata tgatgtcgtt tttgatacga ccaaggaaga tgcttcgcat 600
114 atgcttcatg cagacttctc ttactataat ccaacagcta ttttgaatca tagggtgccc 660
115 tttatcaagg ttaaagcgat tgacaataat caacatatta cgccctatct ttcaaatgat 720
116 attcaaaaga attcgaccta tcctattgat ttaatcgttt cgcacatgtc agaaatcaat 780
117 tatcctgatt ttagttattt attgggtcac aaatatgtca agaaaaggga aagagttgat 840
118 ttaaagaatc aaaaagctgc ggttcatctc catgtgtttt atgtggattt gctggaagaa 900
119 tttttaacgg catttaaaca atttcatttt tcttatgatt tatttataac gacagatagt 960
120 gatgataaga aagctgaaat tgaagagatt ctatctgcaa acagtcaaga ggctcaggtt 1020
121 tttgtcacag gcaatattgg acgtgatgtt cttcctatgt taaaattaaa aaattatta 1080
122 tctacctatg attttgttgg tcattttcat accaaaaagt caaaggaggc tgatttttgg 1140
123 gctggccaat cttggcggga agaattaatt gatatgttgg ttaaaccagc agacaatatt 1200
124 ttagcgcaat tacagcaaaa cccaaaaatt ggtttggtga ttgctgatat gccaactttc 1260
125 tttcgctata ataaaattgt ggatgcttgg aatgaacatt tgattgcacc tgagatgaat 1320
126 acattatggc aaaagatggg catgaccaaa aagattgatt tcaatgcttt tcacactttt 1380
127 gtcatgagtt atggcacttt tgtttggttt aaatatgatg ccttaaaacc gctctttgat 1440
128 ttaaatctga cagatgatga tgtgcctgag gaacctttac cgcaaaattc tattttacat 1500
129 gctattgagc gtttgctgat ctacattgct tggaatgagc attacgattt tagaatttct 1560
130 aaaaatccag ttgatctgac gcctttcata gataataaat tattaaataa acgtggtaac 1620
131 tcagcaccaa atacctttat tgattttaac catatgggag gaataaaagg agcttttaag 1680
132 tatatcttta ttggtccagc tagggctgtc aaatatatcc ttaaacgttc tctgcaaaaa 1740
                                                                      1752
133 ataaagtcat ga
136 <210> SEQ ID NO: 4
137 <211> LENGTH: 1752
138 <212> TYPE: DNA
139 <213> ORGANISM: Streptococcus mutans
141 <400> SEQUENCE: 4
142 atgaaaagac tgcttttgta tgtgcatttt aataaatata atcgtgtgag ttcccatgtt 60
143 tactaccaac tgacacaaat gcgcccctta ttttcaagag tagttttcat cacaaatagc 120
144 catctagctc aggaggacca agacaagctg cgcaatcaaa atttgatgga tgattttcta 180
145 cagagagaaa atatcggttt tgattttgcg gcttggcgtg atgggatgaa tcacattggc 240
146 tttgacaatc ttgattctta tgatattgtc actgttatga acgatacttg ctttggacct 300
147 ttgtgggatg ttaaggatta ttacctgtcc tatgaaaagc aagatgaagt tgatttttgg 360
148 ggattgacca ataatcgtgc gactaagcag tttaaggagc atattcaaag ctactttatt 420
149 acttttaaaa aggctgttat tcaatcaaat gcctttcatg atttttggga gaatatccaa 480
150 aatcatacag atgttcagcg tgtcattgat gattatgaaa ctcaggtgac gacgacactt 540
151 ctggatgcag gttttaagta tagtgtcata tttgacacaa ccaaagaaga tgcttcacat 600
152 atgctgcatg cagatttttc ttattataat ccaacagcta ttttgaacca tagagtgcct 660
153 tttatcaagg ttaaagctat tgataataat cagcatatta ccccctacct tttaaatgat 720
154 attcaaaatc attcgaccta tcctattgat ttaatcgttt ctcacatgtc agaaatcaat 780
155 tatcctgatt ttagttactt gttgggtcat aaatatgtca agagaaaaga agcggttgat 840
156 ttaacgggtc aaaaaattgc agttcatctc catgtttttt atgtggatct gctagaagaa 900
157 tttttgacag cattcaagca atttcatttt tcttatgatt tatttatgac aacagatagt 960
158 gatgataaga aagctgaaat tgaagaaatt ctagcagcaa ataatcaaga agttcaggtt 1020
159 tttgtcacag ggaatattgg acgtgatgtt ctccctatgt taaaattaaa aaattactta 1080
160 tctgcctatg attttgttgg ccattttcat accaaaaaat caaaagaagc tgatttttgg 1140
161 gctggccaat cttggcggga agaattaatt gacatgttgg ttaagccagc agacaatatt 1200
```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/584,990

DATE: 07/10/2006

TIME: 10:42:40

```
162 ttagcagaat tacagcaaaa cccgaaaatt ggtttggtta ttgctgatat gccaactttc 1260
163 tttcgctata ataaaattgt tgatgcttgg aatgaacatt tgattgcacc tgagatgaat 1320
164 acactatggc aagagatggg aatgaccaaa acgattgatt tcaatgcttt tcatactttt 1380
165 gtcatgagtt atggcacttt tgtttggttt aaatatgatg ccttaaaacc gctctttgat 1440
166 ttaaatctga cagatgatga tgtgcctgag gaacctttac cgcaaaattc tattttacat 1500
167 gctattgagc gtttgctgat ctacattgct tggaatgagc attacgattt tagaatttct 1560
168 aaaaatccag ttgatctgac gcctttcata gataataaat tattaaataa acgtggtaac 1620
169 tcagcaccaa atacctttat tgattttaac catatgggag gaataaaagg agcttttaag 1680
170 tatatcttta ttggtccagc tagggctgtc aaatatatcc ttaaacgttc tctgcaaaaa 1740
171 ataaagtcat ga
                                                                      1752
174 <210> SEQ ID NO: 5
175 <211> LENGTH: 1752
176 <212> TYPE: DNA
177 <213> ORGANISM: Streptococcus mutans
179 <400> SEQUENCE: 5
180 atgaagcgcc tgcttttata tgttcatttt aataaataca atcgggtaag ttcccatgtc 60
181 gtttatcagt tgactcaaat gagatccttg ttttcaaaag ttatctttat ttcaaatagc 120
182 caagtggcag atgcggatgt caaaatgcta agagaaaagc atctcattga tgacttcatt 180
183 caacggcaga attctggatt tgactttgca gcttggcgag atggaatggt ctttgtcggt 240
184 tttgatgaac ttgtgacata tgactcggta acaaccatga atgacacttg ttttggacct 300
185 ctttgggaaa tgtattcaat ttatcaagaa tttgaaacca agacgacagt tgatttttgg 360
186 ggattgacta ataatcgtgc gactaagcag tttaaggaac atattcaaag ctactttatt 420
187 tcctttaaaa aagctgttat tcaatcggag gcctttcata atttttggga gaacatccaa 480
188 aatcatgcag atattcaacg tgtcattgat gattacgaaa ctcaggtcac gacaactctc 540
189 ttagatgctg gttttcaata tgatgtcgtt tttgatacga ccaaggaaga tgcttcgcat 600
190 atgetteatg cagaettete ttaetataat eeaacageta ttttgaatea tagggtgeee 660
191 tttatcaagg ttaaagcgat tgacaataat caacatatta cgccctatct tttaaatgat 720
192 attcaaaaga attcgaccta tcctattgat ttaattgttt cgcacatgtc agaaatcaat 780
193 tatcctgatt ttagttattt attgggtcac aaatatgtca agaaaagaga aagagttgat 840
194 ttaaaqaatc aaaaagttgc ggttcatctc catgtgtttt atgtggattt actggaagaa 900
195 tttttaacgg catttaagca atttcatttt tcttatgatt tatttataac gacagatagt 960
196 qatqataaqa aaqctqaaat tqaaqaqatt ctatctgcaa acagtcaaga agctcaggtt 1020
197 tttgtcacag gcaatattgg acgtgatgtt cttcctatgt taaaattaaa aaattatta 1080
198 tctacctatg attttgttgg tcattttcat accaaaaagt caaaggaggc tgatttttgg 1140
199 gctggccaat cttggcggga agaattaatt gacatgttgg ttaaaccagc agacaatatt 1200
200 ttagcgcaat tacagcaaaa cccaaaaatt ggtttggtga ttgctgatat gccaactttc 1260
201 tttcgctata ataaaattgt tgatgcttgg aatgaacatt tgattgcacc tgagatgaat 1320
202 acattatggc aaaagatggg catgaccaaa aagattgatt tcaatgcttt tcatactttt 1380
203 gtcatgagtt atggcacttt tgtttggttt aaatatgatg ccttaaaacc gctctttgat 1440
204 ttaaatctga cagatgatga tgtgcctgag gaacctttac cgcaaaattc tattttacat 1500
205 gctattgagc gtttgctgat ctacattgct tggaatgagc attacgattt tagaatttct 1560
206 aaaaatccag ttgatctgac gcctttcata gataataaat tattaaatga acgtggcaac 1620
207 tcagcaccaa atacctttgt tgattttaac tatatgggag gaataaaggg agcttttaaa 1680
208 tatattttca ttggtccagc tagggctgtc aaatatatcc ttaaacgttc tctgcaaaaa 1740
                                                                      1752
209 ataaagtcat ga
212 <210> SEQ ID NO: 6
213 <211> LENGTH: 1752
214 <212> TYPE: DNA
215 <213> ORGANISM: Streptococcus mutans
```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/584,990

DATE: 07/10/2006

TIME: 10:42:40

```
217 <400> SEQUENCE: 6
218 atgaagcgcc tgcttttata tgttcatttt aataaataca atcgggtaag ttcccatgtc 60
219 gtttatcagt tgactcaaat gagatccttg ttttcaaaag ttatctttat ttcaaatagc 120
220 caagtggcag atgcggatgt caaaatgcta agagaaaagc atctcattga tgacttcatt 180
221 caacggcaga attctggatt tgactttgca gcttggcgag atggaatggt ctttgtcggt 240
222 tttgatgaac ttgtgacata tgactcggta acaaccatga atgacacttg ttttggacct 300
223 ctttgggaaa tgtattcaat ttatcaagaa tttgaaacca agacgacagt tgatttttgg 360
224 ggattgacca acaaccgtgc aaccaagtca tttcgtgagc atattcaaag ttactttatt 420
225 tcatttaaag catctgtttt aagaagcacc gctttcagag acttttggga aaatataaaa 480
226 gagtatcagg atgttcaaaa ggtgattgat cagtatgaaa caaaggtcac gacaactctc 540
227 ttagatgctg gttttcaata tgatgtcgtt tttgatacga ccaaggaaga tgcttcgcat 600
228 atgcttcatg cagacttctc ttactataat ccaacagcta ttttgaatca tagggtgccc 660
229 tttatcaagg ttaaagcgat tgacaataat caacatatta cgccctatct tttaaatgat 720
230 attcaaaaga attcgaccta tcctattgat ttaattgttt cgcacatgtc agaaatcaat 780
231 tatcctgatt ttagttattt attgggtcac aaatatgtca agaaaagaga aagagttgat 840
232 ttaaagaatc aaaaagctgc ggttcatctc catgtgtttt atgtggattt gctggaagaa 900
233 tttttaacgg catttaagca atttcatttt tcttatgatt tatttataac gacagatagt 960
234 gatgataaga aagctgaaat tgaagagatt ctatctgcaa acagtcaaga ggctcaggtt 1020
235 tttgtcacag gcaatattgg acgtgatgtt cttcctatgt taaaattaaa aaattatta 1080
236 tctacctatg attttgttgg tcattttcat accaaaaagt caaaggaggc tgatttttgg 1140
237 gctggccaat cttggcggga agaattaatt gacatgttgg ttaaaccagc agacaatatt 1200
238 ttagcgcaat tacagcaaaa ccccaaaatt ggtttggtga ttgctgatat gccaactttc 1260
239 tttcgctata ataaaattgt tgatgcttgg aatgaacatt tgattgcacc tgagatgaat 1320
240 acattatggc aaaagatggg catgaccaaa aagattgatt tcaatgcttt tcacactttt 1380
241 gtcatgagtt atggcacttt tgtttggttt aaatatgatg ccttaaaacc gctctttgat 1440
242 ttaaatctga cagatgatga tgtgcctgag gaacctttgc cgcaaaattc tattttacat 1500
243 gctattgagc gtttattgat ctacattgct tggaatgagc attacgattt tagaatttct 1560
244 aaaaatccag ttgatctgac gcctttcata gataataaat tattaaatga acgtggcaac 1620
245 tcagcaccaa atacctttgt tgattttaac tatatgggag gaataaaggg agcttttaaa 1680
246 tatattttca ttggtccagc tagggctgtc aaatatatcc tgaagcgttc tctgcaaaaa 1740
247 ataaagtcat ga
                                                                      1752
250 <210> SEQ ID NO: 7
251 <211> LENGTH: 1742
252 <212> TYPE: DNA
253 <213> ORGANISM: Streptococcus mutans
255 <400> SEQUENCE: 7
256 atgaagcgcc tgcttttata tgttcatttt aataaataca atcgggtaag ttcccatgtc 60
257 gtttatcagt tgactcaaat gagatccttg ttttcaaaag ttatctttat ttcaaatagc 120
258 caagtggcag atgcggatgt caaaatgcta agagaaaagc atctcattga tgacttcatt 180
259 caacggcaga attctggatt tgactttgca gcttggcgag atggaatggt ctttgtcggt 240
260 tttgatgaac ttgtgacata tgactcggta acaaccatga atgacacttg ttttggacct 300
261 ctttgggaaa tgtattcaat ttatcaagaa tttgaaacca agacgacagt tgatttttgg 360
262 ggattgacca acaaccgtgc gaccaagtca tttcgtgagc atattcaaag ttactttatt 420
263 tcatttaaag catctgtttt aagaagcacc gctttcagag acttttggga aaatataaaa 480
264 gagtatcagg atgttcaaaa ggtgattgac cagtatgaaa caaaagtcac gacaactctc 540
265 ttagatgctg gttttcaata tgatgtcgtt tttgatacga ccaaggaaga tgcttcgcat 600
266 atgetteatg cagaettete ttaetataat eeaacageta ttttgaatea tagggtgeee 660
267 tttatcaagg ttaaagcgat tgacaataat caacatatta cgccctatct tttaaatgat 720
268 attcaaaaga attcgaccta tcctattgat ttaattgttt cgcatatgtc agaaatcaat 780
```

VERIFICATION SUMMARY

4" 1 E 4

DATE: 07/10/2006

PATENT APPLICATION: US/10/584,990

TIME: 10:42:41

Input Set : F:\SU0401_sequences.txt
Output Set: N:\CRF4\07102006\J584990.raw

L:9 M:270 C: Current Application Number differs, Replaced Current Application Number L:10 M:271 C: Current Filing Date differs, Replaced Current Filing Date